

# Mineral Industry Surveys

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## FLUORSPAR IN THE FIRST QUARTER 2004

Reported fluorspar consumption in the first quarter was 167,000 metric tons (t), about a 4% increase compared with the revised figure for previous quarter and 12% higher compared with the revised figure for the first quarter of 2003. Consumption of fluorspar for hydrofluoric acid (HF) and aluminum fluoride was 147,000 t, a 5% increase compared with the previous quarter and about 19% higher compared with the first quarter of 2003.

### Defense Stockpile

There were no sales of fluorspar during the first quarter of 2004. According to the latest report (May 2004) from the Defense National Stockpile Center, unsold stockpile material consisted of 4,430 t of acid grade, 68,200 t of metallurgical grade, and 18,400 t of sub-specification metallurgical grade. Material committed for sale pending shipment totaled about 63,200 t of acid grade.

### Industry News

Published prices for acidspars increased in the spring of 2004, but appear to have stabilized since then. Chinese acidspars, dry basis, at U.S. Gulf ports reached \$195 to \$205 per metric ton in March (it was \$178 to \$183 in February). The price of South African acidspars, free on board (f.o.b.) Durban, reached \$125 to \$140 per metric ton in April (it was \$120 to \$140 in March). The price of low arsenic Mexican acidspars, f.o.b. Tampico, reached a range of \$150 to \$175 per metric ton in May (it was \$141 to \$150 in April) (Industrial Minerals, 2004b, c, d, e).

China's export quota for 2004 has reportedly been announced at 750,000 t, with the first round of bidding assigning a total of 375,000 t that included 225,000 t assigned with an export license fee equivalent to about \$37 per metric ton and 150,000 t assigned at about \$82 per metric ton. For the full first round amount, this works out to an average license fee of about \$55 per metric ton.

Mineral Securities Ltd., which acquired the Speewah fluorite project in the East Kimberley region of northern Western Australia in 2002, entered into an A\$3.75 million agreement with Doral Mineral Industries Ltd. to complete a bankable feasibility study. The agreement would allow Doral to earn up

to 75% interest in the project, while making Doral responsible for management of the project including an expanded drilling program and delivery of the bankable feasibility study. Prior to the onset of the wet season, the drilling program completed approximately 7,000 meters of reverse circulation drilling and 1,000 meters of diamond core drilling that intersected broad zones of fluorite mineralization consistent with previous drilling. Additional drilling will be undertaken beginning at the start of the 2004 dry season. Completion of sample work is expected to give an approximate run-of-mine ore grade of 25% to 26% CaF<sub>2</sub>. Data from the drilling program will be used in the bankable feasibility study scheduled for completion by August 2004. Various environmental, ethnographic, hydrologic, road, and metallurgical studies have been commissioned with pit design and engineering studies to follow (Mineral Securities Ltd., 2003, 2004).

Applied Industrial Materials Corp. (AIMCOR) was acquired by Oxbow Carbon and Minerals LLC (OCM) in December 2003 and is now part of OCM. AIMCOR's main business areas involved refinery services, terminal operations, and marketing for petroleum coke, but the company also was a distributor of fluorspar to customers in North America. The acquisition also included the 49% share AIMCOR held in Mexican fluorspar producer Fluorita de Mexico S.A. de C.V. (Industrial Minerals, 2004a).

Tiberon Minerals Ltd. announced the appointment of Aker Kvaerner ASA as lead engineering consultant for the bankable feasibility study of the Nui Phao tungsten-fluorspar deposit in Vietnam. Aker Kvaerner is a multinational engineering company based in Norway (Tiberon Minerals Ltd., 2004a§<sup>1</sup>). In a separate announcement, Tiberon reported the acquisition of an additional 7.5% interest in the project, increasing its total interest to 77.5%. The additional interest was acquired from one of Tiberon's minority partners—Export-Import Investment Company Thai Nguyen (Tiberon Minerals Ltd., 2004b§).

<sup>1</sup>References that include a section mark (§) are found in the Internet References Cited section.

## Fluorochemical News

Mexico's Grupo Camesa S.A. de C.V., parent company of fluorspar producer Cia. Minera Las Cuevas S.A. de C.V., acquired Mexican HF producer Quimica Fluor S.A. de C.V. The acquisition price was reported as about \$25.2 million (288 million pesos). Quimica Fluor operates a large HF plant in Matamoros, Tamaulipas State (South American Business Information, 2004§).

Shaowu Fujian Mineral Haisheng Co. Ltd. (SFMH), a joint venture between Tianjin-based Jersey Mineral Processing Co. Ltd. and local partners, is planning to construct an HF plant near its flotation mill at Shaowu, China. The company has been producing about 30,000 metric tons per year of acidspar since it installed the mill in 2000, but plans to double the plant capacity in 2004. These expansions are in response to the growing demand for fluorochemical products in China's domestic market (O'Driscoll, 2004).

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TABLE 1  
SALIENT FLUORSPAR STATISTICS<sup>1</sup>

(Metric tons, unless otherwise specified)

	2003 <sup>p</sup>					2004
	First quarter	Second quarter	Third quarter	Fourth quarter	Total	First quarter
Imports for consumption:	182,000 <sup>r</sup>	90,400	151,000	143,000	567,000	226,000
Value per ton, c.i.f. U.S. port, acid grade	\$129	\$122	\$141	\$156	\$138 <sup>2</sup>	\$172
Value per ton, c.i.f. U.S. port, metallurgical	\$85	\$85	\$85	\$85	\$85 <sup>2</sup>	\$83
Exports	8,170	8,090	7,330	7,100	30,700	6,800
End of quarter stocks, consumer	142,000	125,000	113,000	126,000	XX	173,000
Fluorspar equivalent of imported hydrofluoric acid	47,900	51,000	32,800	35,500	167,000	43,300
Fluorspar equivalent of imported cryolite	1,480	6,650	845	758	9,740	1,370
Quarterly reported fluorspar consumption	149,000 <sup>r</sup>	140,000 <sup>r</sup>	166,000 <sup>r</sup>	161,000 <sup>r</sup>	616,000 <sup>r</sup>	167,000

<sup>p</sup>Preliminary. <sup>r</sup>Revised. XX Not applicable.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Average value.

TABLE 2  
CONSUMPTION OF FLUORSPAR BY END USE AND ASSAY RANGE<sup>1</sup>  
(DOMESTIC AND FOREIGN IN THE UNITED STATES)

(Metric tons)

End use or product	Fourth quarter 2003 <sup>p</sup>			First quarter 2004			
	More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total	2003	More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total
Hydrofluoric acid and aluminum fluoride	140,000	--	140,000	523,000	147,000	--	147,000
Metallurgical	4,150	10,800 <sup>r</sup>	14,900 <sup>r</sup>	63,500 <sup>r</sup>	4,150	9,850	14,000
Other uses or products <sup>2</sup>	6,530	--	6,530	29,100	6,600	--	6,600
Total	150,000	10,800 <sup>r</sup>	161,000 <sup>r</sup>	616,000 <sup>r</sup>	158,000	9,850	167,000
Stocks, end of quarter <sup>3</sup>	99,200	26,800 <sup>r</sup>	126,000	XX	147,000	26,600	173,000

<sup>p</sup>Preliminary. <sup>r</sup>Revised. XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes acid grade used in enamel, glass and fiberglass, steel castings, and welding rod coatings.

<sup>3</sup>Stocks data include distributor stocks (excluding National Defense Stockpile holdings) and consumer stocks for hydrofluoric acid and aluminum fluoride.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF FLUORSPAR, BY COUNTRY AND VALUE<sup>1,2</sup>

	2003										2004	
	First quarter		Second quarter		Third quarter		Fourth quarter		Total		First quarter	
	Quantity (metric tons)	Value <sup>3</sup> (thousands)	Quantity (metric tons)	Value <sup>3</sup> (thousands)	Quantity (metric tons)	Value <sup>3</sup> (thousands)	Quantity (metric tons)	Value <sup>3</sup> (thousands)	Quantity (metric tons)	Value <sup>3</sup> (thousands)	Quantity (metric tons)	Value <sup>3</sup> (thousands)
Containing more than 97% calcium fluoride:												
China	115,000	\$15,100	14,700	\$2,010	111,000	\$16,200	94,900	\$15,700	336,000	\$49,000	171,000	\$31,100
France	--	--	40	13	--	--	42	14	82	27	--	--
Germany	--	--	17	11	--	--	--	--	17	11	--	--
Japan	--	--	--	--	--	--	--	--	--	--	--	--
Mexico	11,900	1,380	16,800	1,820	15,500	1,950	12,100	1,740	56,300	6,890	16,100	2,020
Mongolia	--	--	--	--	20	3	--	--	20	3	--	--
South Africa	24,800	3,020	52,700	6,410	15,000	1,870	28,000	3,580	120,000	14,900	21,000	2,640
Spain	19,100	2,540	--	--	--	--	--	--	19,100	2,540	--	--
United Kingdom	20	3	44	22	46	21	445	53	555	99	4	5
Total	171,000	22,000	84,300	10,300	142,000	20,000	135,000	21,100	533,000	73,400	208,000	35,800
Containing not more than 97% calcium fluoride:												
Canada	--	--	--	--	--	--	--	--	--	--	7	3
Mexico	11,300	955	6,150	525	9,010	762	7,390	629	33,800	2,870	18,200	1,520
Total	11,300	955	6,150	525	9,010	762	7,390	629	33,800	2,870	18,300	1,520
Grand total	182,000	23,000	90,400	10,800	151,000	20,800	143,000	21,800	567,000	76,300	226,000	37,300

-- Zero.

<sup>1</sup>Imports for consumption include imports of immediate entry, and warehouse withdrawals.

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>Cost, insurance, and freight at U.S. ports.

Source: U.S. Census Bureau.

TABLE 4  
IMPORTS FOR CONSUMPTION OF HYDROFLUORIC ACID<sup>1</sup>

	2003										2004	
	First quarter		Second quarter		Third quarter		Fourth quarter		Total		First quarter	
	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)
Canada	8,580	\$10,000	11,000	\$12,500	6,990	\$8,060	7,360	\$8,050	33,900	\$38,600	9,780	\$11,700
Japan	389	978	184	442	311	755	250	608	1,130	2,780	347	816
Mexico	22,800	22,100	22,600	21,900	13,900	12,900	15,500	14,600	74,800	71,500	18,400	17,500
Other <sup>3</sup>	202	307	261	368	656	836	555	545	1,670	2,060	279	508
Total	32,000	33,400	34,000	35,200	21,800	22,600	23,700	23,800	111,000	115,000	28,800	30,500

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Cost, insurance, and freight at U.S. ports.

<sup>3</sup>Includes China, Germany, the Republic of Korea, the Netherlands, Singapore, Spain, Switzerland, and Taiwan.

Source: U.S. Census Bureau.